CSS
Cascading Style Sheets

The main idea:

We can customize the behaviour of the HTML Tags (e.g. adding properties – a "style")

\<h1\>
\<h1 style="color:blue;text-align:center;"\>

Inline CSS

We can also generalize:

We can customize the behaviour of all instances of a type of HTML Tag

```
<head>
<style>
h1 {
  color:blue;
  text-align:center;
}
</style>
</head>
```

Internal CSS

We can factor them out:

We can customize the behaviour of all instances of a type of HTML Tag for many files.

\<head\>

\<head\>

\<style type="text/css"\>

 @import url("myStyle.css");

\</style\>

\</head\>

\</head\>

External CSS

myStyle.css

```
h1 {
  color:blue;
  text-align:center;
}
```

Introduzione alla programmazione we

Another syntax:

```
<head>

<link rel="stylesheet" type="text/css"
href="myStyle.css">

</head>
```

External CSS

myStyle.css

```
h1 {
  color:blue;
  text-align:center;
}
```

Introduzione alla programmazione we

Achieving separation
between content and presentation

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0//EN">
<HTML>
  <HEAD>
    <TITLE>Hello World</TITLE>
  </HEAD>
  <BODY>
    <H1>Hello World!</H1>
    <p>Usiamo i CSS</p>
  </BODY>
</HTML>
```

hello.html

Hello World!

Usiamo i CSS

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0//EN">
<HTML>
  <HEAD>
    <TITLE>Hello World con CSS</TITLE>
    <LINK rel="stylesheet" href="hello.css" type="text/css">
  </HEAD>
  <BODY>
    <H1>Hello World!</H1>
    <p>Usiamo i CSS</p>
  </BODY>
</HTML>
```

hello.html

```
BODY { color: red }
H1 { color: blue }
```

hello.css

Hello World!

Usiamo i CSS

Da http://www-db.deis.unibo.it

The goal

The goal: a simpler example

See https://www.w3schools.com/css/css_intro.asp

Style: local definition (inline)

```
<html><head>
</head><body>

<h1 style="color:blue;">primo capitolo</h1>
nel mezzo del cammin di nostra vita
<h1 style="color:blue;">secondo capitolo</h1>
mi ritrovai per una selva oscura
<h1 style="color:blue;">terzo capitolo</h1>
che la diritta via m'era smarrita
</body></html>
```

Style: definition of a page style (internal CSS)

```
<html><head>
<style>
h1 {color:blue;}
</style>
</head><body>
<h1>primo capitolo</h1>
nel mezzo del cammin di nostra vita
<h1>secondo capitolo</h1>
mi ritrovai per una selva oscura
<h1>terzo capitolo</h1>
che la diritta via m'era smarrita
</body></html>
```

Style: definition of a shared style (external CSS)

```
<html>
<head>
<link  rel="StyleSheet" type="text/CSS"  href="../common/lodeStyles.css" >
</head>
<body>
<h1>primo capitolo</h1>
nel mezzo del cammin di nostra vita
<h1>secondo capitolo</h1>
mi ritrovai per una selva oscura
<h1>terzo capitolo</h1>
che la diritta via m'era smarrita
</body></html>
```

CSS
Cascading Style Sheets

Some Formatting Elements

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Length units

ABSOLUTE LENGTH
International System
cm *centimetrs*
mm *millimetrs*

anglosaxon units
in *inch*
pt *point:1/72 inch*
pc *pica:12 point=1/6 inch*

System dependent:
px *pixel*

RELATIVE LENGTH:
em *height of element font*
ex *extended height of element font*

Formatting elements

color:*color*
background-color:*color*
background-image:*uri*

font-family:name
font-size:xx-small|x-small|small|medium|large|x-large|xx-large|
      larger|smaller|*absoluteSize*|*relativeSize*|*percentage*|*lenght*
font-style:normal|italic
font-weight:bold|bolder|lighter|normal|100|200|...|800|900

Colors

- Absolute colors

Also using hex
#RRGGBB
Or
rgb(rosso,verde,blu)

■	black - nero	■	green - verde
■	silver - argento	■	lime - verde chiaro
■	gray - grigio	■	olive - oliva
□	white - bianco	■	yellow - giallo
■	maroon - marrone	■	navy - blu scuro
■	red - rosso	■	blue - blu
■	purple - viola	■	teal - verde acqua scuro
■	fuchsia - fucsia	■	aqua - verde acqua

■	background - il colore di sfondo del desktop
■	buttonFace - il colore di sfondo dei pulsanti
■	buttonText - testo dei pulsanti
□	captionText - testo delle etichette
■	grayText - testo disabilitato

System properties colors

RGBA AND OPACITY

```
rgba: (200, 30 30, 0.2);
opacity: 0.5;
```

GRADIENTS

```
linear-gradient(direction, color-stop1, color-stop2, ...);
```

Formatting elements

line-height:normal|*length*|*percentage*

text-align:left|center|right|justify

text-decoration:blink|line=through|overline|underline

text-indent:*lenght*|*percentage*

text-transform:none|capitalize|uppercase|lowercase

Formatting elements: the Box Model
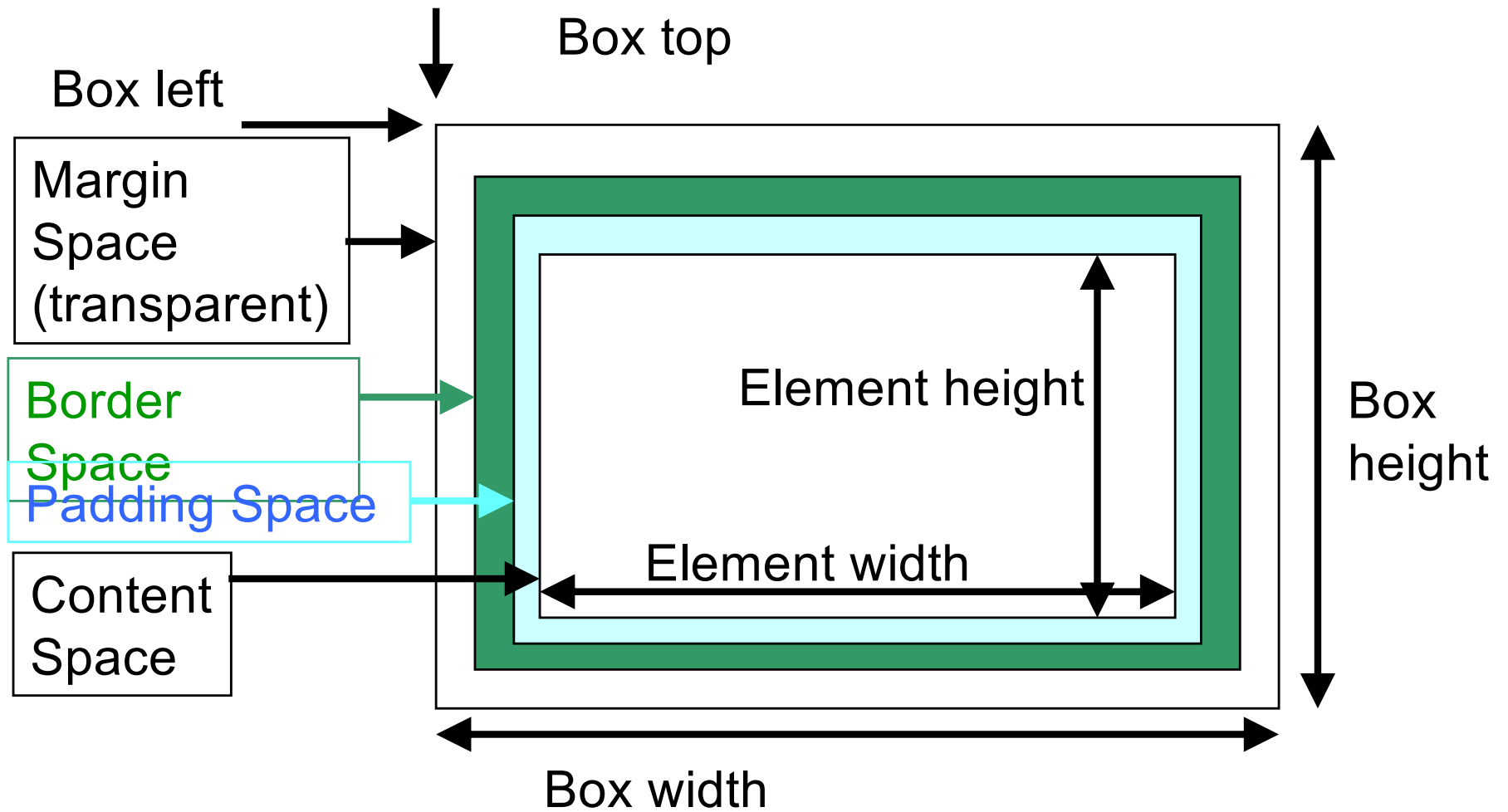
Formatting elements

border-bottom-width,border-top-width,
        border-right-width,border-left-width:thin|medium|thick|n
border-color:*color*
border-style:double|groove|none|inset|outset|ridge|solid
border-width:thin|medium|thick|*length*

margin:*thickness*
margin-bottom,margin-left,margin-right,margin-top :*thickness*

padding :*thickness*
padding-bottom,padding-left,padding-right,padding-top :*thickness*

Formatting elements – lists (<li>)

```
ol {
line-style:decimal|lower-alpha|lower-roman|
                      upper-alpha|upper-roman
}


ul {
 line-style:circle|disc|square
}


ul {
  list-style-image: url('triangle.gif');
}
```

Formatting elements lists (<li>)

- Coffee
- Tea
- Coca Cola

```
ol {
  background: #ff9999;
  padding: 20px;
}
li {
  background: #ffe5e5;
  padding: 5px;
  margin-left: 35px;
}
```

```
ul {
  background: #3399ff;
  padding: 20px;
}
 li {
  background: #cce5ff;
  margin: 5px;
}
```

1. Coffee
2. Tea
3. Coca Cola

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Selectors

Basic selectors

- ## Simple:

```
p { text-align: center; color: red; }
Usage: <p>
```

- ## Class:

```
.red {color: red; }
Usage: <p class="red"> <h1 class="red">
```

- ## Universal:

```
*{color: red; }
Usage: <p> <h1>
"
```

- ## #id:

```
#red {color: red; }
Usage: <p id="red"> <h1 id="red">
```

Combinator selectors

- Simple + class:

```
p.red { text-align: center; color: red; }
Usage: <p class="red"> NOT: <p>, <h1.red>
```

- Grouping:

```
div, p {color: red; }
Usage: <p>, <div>
```

- Descendant:

```
div  p {color: red; }
Usage: <div><p>, <div><i><p> NOT: <p>, <div>
```

- Child:

```
div > p {color: red; }
Usage: <div><p> NOT: <div><span><p> <p>, <div>
```

View also https://www.w3schools.com/css/css_combinators.asp

Example – again on lists (<li>)

```
ol {
  background: #ff9999;
  padding: 20px;
}
ol li {
  background: #ffe5e5;
  padding: 5px;
  margin-left: 35px;
}
```

```
ul {
  background: #3399ff;
  padding: 20px;
}
ul li {
  background: #cce5ff;
  margin: 5px;
}
```

- Coffee
- Tea
- Coca Cola

1. Coffee
2. Tea
3. Coca Cola

Combinator selectors

- ## Adjacent sibling:

```
div + p{ text-align: center; color: green; }
```
Usage: `<div>some text</div>` `<p>more text</p>` `<p>not this</p>`

> Sibling elements must have the same parent element, and "adjacent" means " Immediately following"

- ## General sibling:

```
div ~ p {color: green; }
```
Usage: `<div>some text</div>` `<p>more text</p>` `<p>also this</p>`

> all elements that are siblings of a specified element

View also https://www.w3schools.com/css/css_combinators.asp

Advanced selectors

- **Pseudo-class:**

A pseudo-class is used to define a special state of an element: mouse over, get focus, link is visited or not, is n-th child, current language is…

see: https://www.w3schools.com/css/css_pseudo_classes.asp

- **Pseudo-element:**

A CSS pseudo-element is used to style specified parts of an element: the first letter, the first line, before/after the content, selection…

see: https://www.w3schools.com/css/css_pseudo_elements.asp

Attribute selectors

input[type="button"] {
    width: 120px; margin-left: 35px; display: block;
}

Selector	Example	Example description
[attribute]	[target]	Selects all elements with a target attribute
[attribute=value]	[target=_blank]	Selects all elements with target="_blank"
[attribute~=value]	[title~=flower]	Selects all elements with a title attribute containing the word "flower"
[attribute|=value]	[lang|=en]	Selects all elements with a lang attribute value starting with "en"
[attribute^=value]	a[href^="https"]	Selects every <a> element whose href attribute value begins with "https"
[attribute$=value]	a[href$=".pdf"]	Selects every <a> element whose href attribute value ends with ".pdf"
[attribute*=value]	a[href*="w3schools"]	Selects every <a> element whose href attribute value contains the substring "w3schools"

The value has to be a whole word, either alone, like class="top", or followed by a hyphen(-), like class="top-text"!

View https://www.w3schools.com/css/css_attribute_selectors.asp

CSS
Cascading Style Sheets

Cascading and positioning

Styles cascade

```html
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <title>CSS-P demo</title>
    <style>
      a {color:red;}
      p {font-size:24pt;color:green;border-width:thick;
         border-style:ridge;border-color:red;}
      p.red {color:red}
    </style>
  </head>
  <body>
      <p class="red">Pippo</p>
      <div style="background:orange;
          <p> Pluto</p>
          <p class="red" style="font-size:12pt;
             background-color:yellow; ">Topolino</p>
      </div>
    </body>
</html>
```

The !important clause

- !important

- Wins over the other clauses

Positionable Elements – CSS/P

Type of position specification:
    position:absolute|relative

Position specification:
    top:*size*
    left:*size*

dimension specification:
    width:*size*
    height:*size*

Visibility specification:
    visibility:hidden|inherit|show

Positionable Elements – CSS/P

Clip:rect(*top right bottom left*)
        Clip an element (leaving it in place)

z-index:*n*
        Decides the superposition ranking

Positioning examples: CSS-P

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <title>CSS-P demo</title>
    <style>
      #aposition{position:relative;left:30px;top:20px}
      a {color:red;}
      p {font-size:24pt;color:green;border-width:thick;
         border-style:ridge;border-color:red;}
      p.red {color:red}
    </style>
  </head>
  <body>
        <p class="red">Pippo</p>
        <div style="background:orange;
            position:absolute;left:100px;top:150px;">
            <p style="padding-left:20px;margin:20px;">Pluto</p>
            <span id="aposition">
                <p class="red" style="font-size:12pt;
                background-color:yellow; ">Topolino</p>
            </span>
        </div>
    </body>
</html>
```
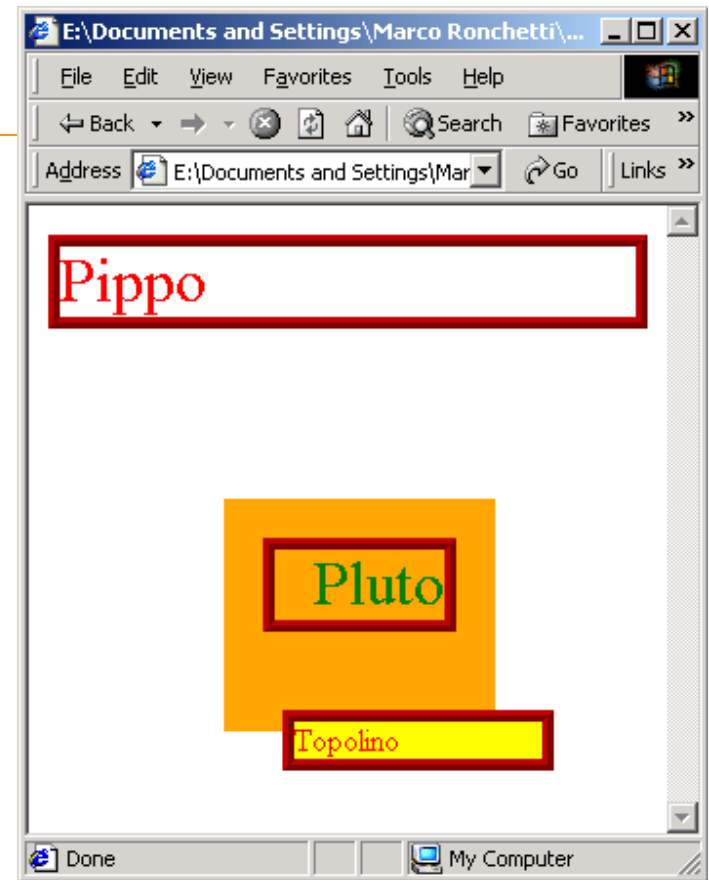
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Some more stuff

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Font types

Font con grazie (o *serif*) →	ABCIMN abcimn 1234 Times Roman
Font senza grazie (o *sans serif*) →	ABCIMN abcimn 1234 Arial
Font monospaziato →	ABCIMN abcimn 1234 Courier
Font calligrafico (o *script*) →	ABCIMN abcimn 1234 Edwardian
Font decorativo (o *fantasy*) →	ABCIMN abcimn 1234 Sand

Proportional

Monospace

Example of multiple declaration:
p {font-family: Verdana, Helvetica, sans-serif;}

ANY FONT YOU LIKE

```
@fontface {
font-family: 'Museo';
src: url('/fonts/museo.otf') format ('opentype');
```

Taken from: DavideDiCillo.com
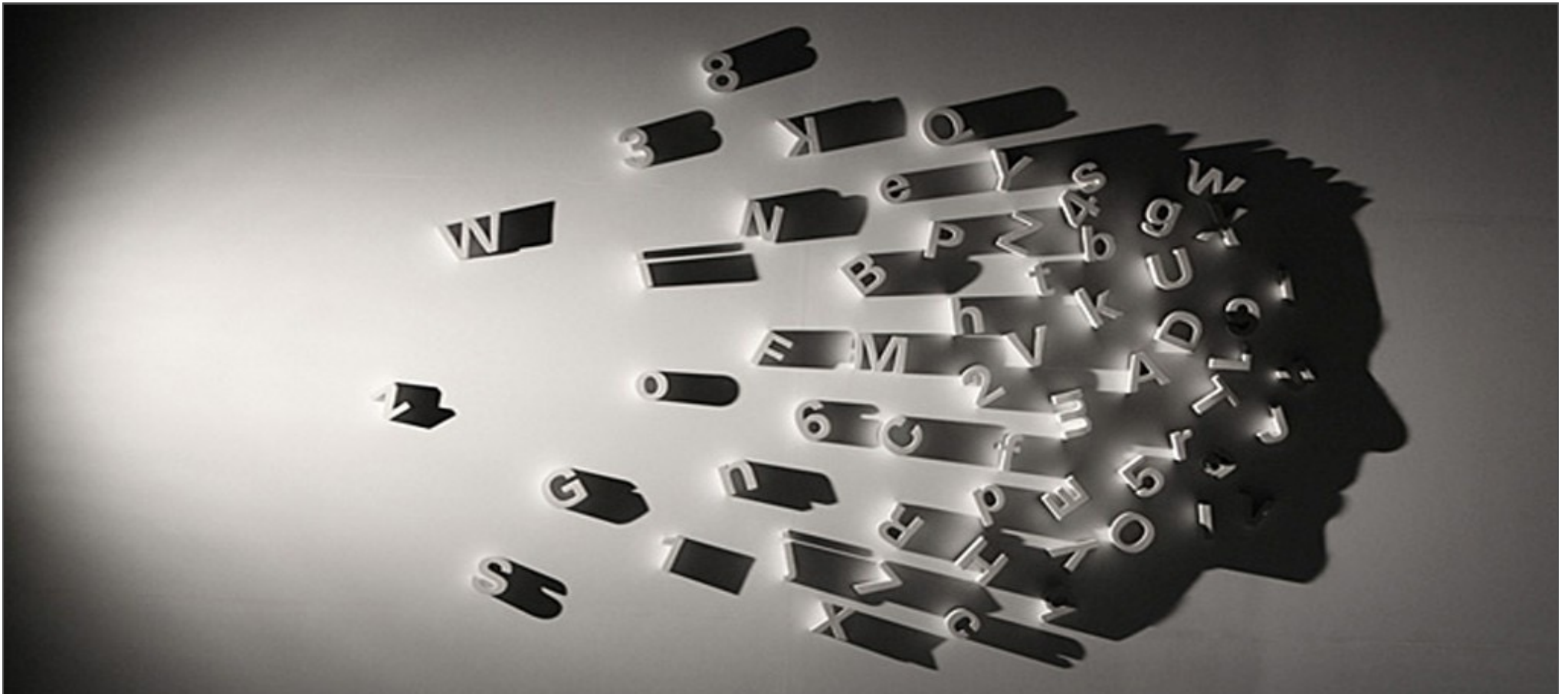
BOX AND TEXT SHADOW

```
box-shadow: 10px 10px 25px #ccc;

text-shadow: 10px 10px 25px #ccc;
```
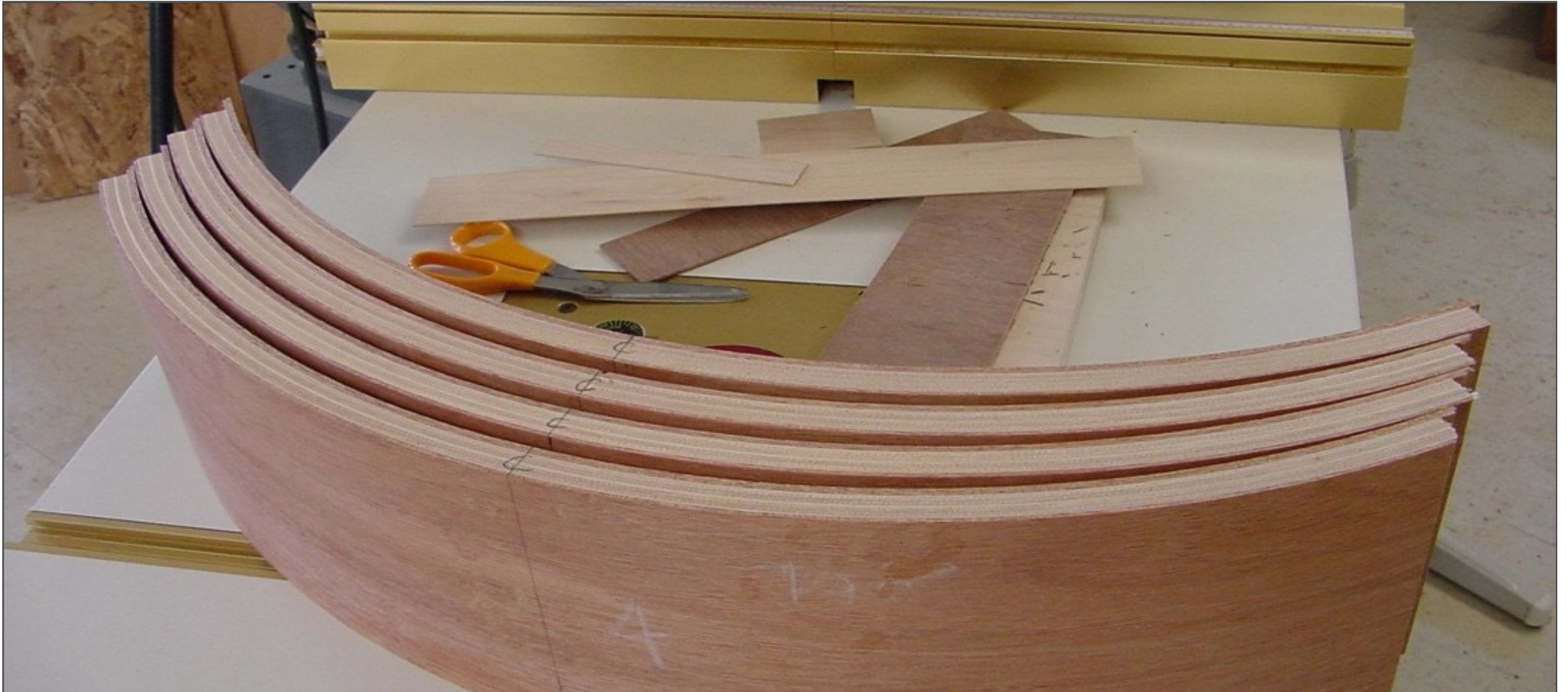
BORDER RADIUS

`border-radius: 20px;`

border-image:url(border.png) 30 stretch

border-image:url(border.png) 30 round

BORDER IMAGE

```
border-image: url(border.png) 30 round;5 repeat;
```

see
https://www.w3schools.com/cssref/tryit.asp?filename=trycss3_js_border-image

Much more!

- Pagination
- Multiple column
- Tooltips
- (Graphic) Transformations (e.g. rotations, 2D – 3D)
- Animation

See section "CSS Advanced" in https://www.w3schools.com/css/

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Cascading Style Sheets

Tutorial and gym

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CSS Tutorial

CSS Tutorial

CSS HOME

CSS Introduction

CSS Syntax

CSS Selectors

CSS How To

CSS Comments

CSS Colors

CSS Backgrounds

CSS Borders

CSS Margins

CSS Padding

CSS Height/Width

CSS Box Model

CSS Outline

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CSS Fonts

CSS Icons

CSS Links

CSS Lists

CSS Tables

CSS Display

CSS Max-width

CSS Position

CSS Overflow

CSS Float

CSS Inline-block

CSS Align

CSS Combinators

CSS Pseudo-class

CSS Pseudo-element

CSS Opacity

CSS Navigation Bar

CSS Dropdowns

CSS Image Gallery

CSS Image Sprites

CSS Attr Selectors

CSS Forms

CSS Counters

CSS Website Layout

CSS Units

CSS Specificity

https://www.w3schools.com/css/